

REMARKS

Applicant has respectfully added Claims 21 and 22 without introducing new matter.

Drawing Objections

Figure 1 of the instant application is objected to for allegedly illustrating only that which is old. Applicant respectfully disagrees in view of the following.

Figure 1 describes an embodiment of the present invention. For example, system 100 implements a bypass method for executing disk I/O which bypasses the prior art ATA step of writing to a set of registers in the disk controller to implement a disk transaction (see instant application page 11, lines 11-16).

Figure 1 further describes a processor that uses the startup delay to build disk transaction information by packaging a plurality of data structures (see instant application, page 11, lines 24-27). Thus, by the time the disk transaction information has been received from the processor, a significant amount of startup latency of the disk drive will have occurred, thereby implementing the disk transaction much sooner in comparison to the prior art (see instant application, page 12, lines 20-24).

Accordingly, Figure 1 describes one exemplary embodiment of the present invention. Therefore, withdrawal of the objection is earnestly solicited.

Claim Rejections 35 U.S.C. 103

Claims 1-20 are rejected, under 35 U.S.C. 103(a), as being allegedly unpatentable by Applicant's Admitted Prior Art (AAPA) in view of Wood et al. (U.S. 6,915,363) (hereinafter Wood). Applicant respectfully traverses in view of the following.

Independent Claim 14 recites a processor, a system memory, a bridge component, and a disk controller, as claimed. Independent Claim 14 further recites transferring the disk transaction information to a plurality of bypass registers of the disk controller, as claimed. Independent Claim 14 further recites subsequent to transferring the command causing the start up, preparing disk transaction information by packaging a plurality of data structures, as claimed.

The rejection relies on the alleged AAPA, namely Figure 1, to show the processor, a system memory, a bridge component and a disk controller, as claimed. Applicant respectfully submits that the alleged AAPA fails to qualify as prior art in light of the arguments presented above with respect to the objection of Figure 1. As such, the alleged AAPA cannot be used to reject the recited limitations, as claimed.

Furthermore, the cited portion of the alleged AAPA discloses that the disk controller uses the pointer to access system memory and retrieve the disk transaction information (see alleged AAPA, page 4, lines 20-22). The alleged AAPA discloses that the once the disk controller has the transaction information,

the disk controller issues commands to start up the disk drive and implement the disk transaction (see alleged AAPA, page 4, lines 22-24). Accordingly, the alleged AAPA teaches using a memory to retrieve the transaction information. The memory, as disclosed by the alleged AAPA, differs from a plurality of bypass registers, as claimed because bypass refers to a manner in which the present invention bypasses the prior art ATA step of writing to a set of registers in the disk controller to implement a disk transaction (see instant application, page 11, lines 13-16).

The rejection relies on the alleged AAPA to show preparing disk transaction information by packaging a plurality of data structures, as claimed. Applicant respectfully submits that the alleged AAPA teaches away from the recited limitation. The alleged AAPA discloses that the preparation includes generating and arranging the transaction information (see instant application, page 4, lines 15-16). The alleged AAPA further discloses that once the disk controller has the necessary transaction information, the disk controller issues a command to start up the disk drive and implement the disk transaction (see instant application, page 4, lines 22-24). Accordingly, the preparation, as disclosed by the alleged AAPA, is prior to and not subsequent to transferring the command causing the start up, as claimed.

Applicant wishes to respectfully remind the Examiner that the prior art must be considered in its entirety, including disclosures that teach away from the claims (see MPEP §2141.02; *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721

F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)).

Thus, the portion of the alleged AAPA that teaches that the preparation is prior to the transferring the command causing the start up cannot and should not be ignored.

The rejection admits that the alleged AAPA fails to teach that upon receiving a request for a disk I/O from an application executing on the computer system, transferring a command to the disk controller, the command causing a start up of the disk drive coupled to the disk controller; subsequent to transferring the command causing the startup, preparing disk transaction information; and the disk controller including a plurality of bypass registers for receiving the disk transaction information, as claimed. The rejection relies on Wood. Applicant respectfully traverses in view of the following.

Wood discloses a plurality of disc drives (see Wood, col. 6, line 8). A controller effectuates the selective transmission of a start command comprising a signal that indicates, instructs, allows, or initiates predetermined OOB signals to the disc drives (see Wood, col. 6, lines 41-47). Moreover, Wood discloses that the sequencing of the spin-up of each disc drive may be controlled by selectively sending start commands from a host computer or array controller to the disc drives in the array (see Wood, col. 2, lines 18-21).

Accordingly, Wood discloses sending a start command from a controller or a host computer to sequence the spin-up of each disc drive. To sequence the

spin-up of disc drives, as disclosed by Wood, differs from a request for a disk I/O, as claimed.

Moreover, Wood fails to either teach or suggest upon receiving a request from an application executing on the computer system, as claimed. The rejection without providing any evidentiary support asserts that "transferring of the start command includes the request from an application on the host computer, which is causing the host computer to transfer the start command to property spin-up (start up) the disk drive for data transferring." Applicant respectfully traverses this assertion. For example, the spin-up may be in response to a user turning on the system and not necessarily due to executing an application on the computer system as alleged by the rejection. Moreover, Applicant interprets this assertion as an Office Notice.

Applicant wishes to respectfully remind that the Examiner must point to some concrete evidence in the record in support of these findings to satisfy the substantial evidence test (see MPEP 2144.03(c)). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding (see 37 CFR 1.104(d)(2) and MPEP 2100-144). Thus, Wood fails to teach or suggest upon receiving a request for a disk I/O from an application executing on the computer system, as claimed.

Wood further discloses an interface 202 including associated buffer to facilitate high-speed data transfer from a host computer to the disc drive (see Wood, col. 4, lines 50-52). An interface facilitating communication between different components, as disclosed by Wood, differs from the disk controller, as claimed because the disk controller is for controlling a disk.

Moreover, an interface having a buffer, as disclosed by Wood, fails to either teach or suggest the disk controller including a plurality of bypass registers, as claimed. As discussed above, bypass refers to a manner in which the present invention bypasses the prior art ATA step of writing to a set of registers in the disk controller to implement a disk transaction (see instant application, page 11, lines 13-16).

Furthermore, Wood discloses that the start command includes a signal that indicates, instructs, allows or initiates predetermined OOB signals to disc drives (see Wood, col. 6, lines 45-47). Wood discloses that the start command initiates predetermined OOB signals. Wood, however, fails to disclose whether the initiation is before the completion of the startup. Independent Claim 14 recites that subsequent to the transferring the command causing the startup and before the completion of the startup, preparing disk transaction information, as claimed. In other words, by the time the disk transaction information has been received from the processor, a significant amount of the start up latency of the disk drive will have occurred, thereby hiding a significant amount of the start up latency from the processor and other components. Therefore, Wood fails to

teach or suggest that subsequent to the transferring the command causing the start up and before the completion of the start up, preparing disk transaction information, as claimed.

Assuming arguendo that Wood discloses preparing disk transaction information subsequent to transferring the command and before the completion of the startup. Applicant respectfully submits that the teaching of Wood renders the teaching of the alleged AAPA inoperable and vice versa. For example, as discussed above the alleged AAPA discloses that the preparation is prior to transferring the command causing the start up. In contrast, Wood allegedly teaches preparing disk transaction information subsequent to the transferring the command, thereby rendering the alleged AAPA inoperable because the alleged AAPA discloses that the preparing disk transaction information is prior to the transferring the command.

Applicant further asserts that the Wood and the alleged AAPA teach away from one another. Thus, one skilled in the art would not be motivated to combine the two references. For example, as presented and discussed above Wood allegedly teaches preparing disk transaction information subsequent to the transferring the command while the alleged AAPA discloses that the preparing disk transaction information is prior to the transferring the command. Thus, Wood teaches away from the disclosure of the alleged AAPA, thereby dissuading one skilled in the art to combine the two references.

Accordingly, the alleged AAPA alone or in combination with Wood fails to render independent Claim 14 obvious, under 35 U.S.C. §103(a). Independent Claims 1 and 9 recite limitations similar to that of Claim 14 and are patentable for similar reasons. Dependent claims are patentable by virtue of their dependency.

As per Claims 2-5, 7, 11, 15-17 and 19, Applicant respectfully asserts that AAPA cannot be used as a prior art reference for reasons discussed above.

As per Claims 6, 12 and 18, Wood discloses that the start command that includes signals that initiate predetermined OOB signals, as discussed above. However, Wood fails to either teach or suggest that the predetermined OOB signals are initiated before completion of the startup. Accordingly, Wood fails to either teach or suggest subsequent to transferring the command causing the start up and before the completion of the start up, preparing disk transaction information that causes the startup of the disk drive to configure and reduce a startup latency of the disk drive, as claimed.

Applicant has added Claims 21-22 and respectfully submits that Claims 21 and 22 are patentable over the cited combination by virtue of their dependency.

As such, allowance of Claims 1-22 is earnestly solicited.

For the above reasons, Applicant requests reconsideration and withdrawal
of the rejections under 35 U.S.C. §103.

CONCLUSION

In light of the above listed remarks, reconsideration of the rejected Claims 1-20 is requested. Based on the arguments presented above, it is respectfully submitted that Claims 1-20 and newly added Claims 21-22 overcome the rejections of record and, therefore, allowance of Claims 1-22 is earnestly solicited.

Please charge any additional fees or apply any credits to our PTO deposit account number: 50-4160.

Respectfully submitted,
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